COLLEGE ENTRANCE REQUIREMENTS[1]

THE fruit of the labors for four years of your Committee on College Entrance Requirements is before you. There is little I need to say, much that I would be pleased to say, in the discharge of the duty devolving upon me as chairman, in the presentation of this report.

The world-wide publicity given to the celebrated report of the Committee of Ten, the favorable comments thereon, and the new blood infused into the arteries of secondary education everywhere in the country, in consequence, made the further consideration of the subject essential to the end of a better articulation of the secondary schools and the colleges.

So rapid has been the progress of education since 1895, so logical and so sensible have been the changes of attitude toward this great question that your committee has found it difficult to keep pace with the evolution of educational opinion, and your chairman expresses the belief that this report, however timely and needful it may seem today, will be considered but faint prophecy before another half decade shall have passed.

The wise athlete summons into action all his reserve force as he nears the end of the race, his blood flows with renewed vehemence, his nerves tingle with renewed strength, as his glistening eye fastens itself upon the goal. As we approach the end of the century that has been kaleidoscopic in its transitions, and the clock strikes the hour of another cycle, new thought, new energy, and the reserve wisdom of contemporary study, are everywhere visible. The secondary schools of today are more and better, because richer in equipment, and more rational in method, than the colleges of fifty years ago, and fifty years hence they will be in advance of the colleges of today, while higher education, whose

[1] Paper read at Los Angeles, July 13, 1899, before the joint meeting of the Departments of Secondary and Higher Education, by the chairman of the Committee on College Entrance Requirements in presenting the report.

concepts are now ill defined, will consist of individual research, professional investigation, and the solution of those life problems, which an infant civilization has not presumed to attack.

In the preparation of this report the committee has drawn from all sources; they have studied the problem in the light of more recent conclusions in England, France, and Germany; they have scanned the whole horizon of American education. The correspondence undertaken, the statistics gathered, the papers written, the discussions of conferences, the contributions of the press, secular and educational, the reports of subcommittees, would fill many volumes, but we have contented ourselves with a brief discussion of principles, and the claims of studies which should underlie and enter into the programs of secondary schools, as schools fostered by the state, for the good of the state, and at the same time as tributary to the colleges which are to conserve the interests of higher education and furnish opportunities for professional training and for individual research along special lines. The report is concise, conservative, conciliatory. Though far from being Utopian, it approaches the ideal. It assumes that the secondary schools are for the purpose of giving the best possible equipment for citizenship and for success in life, within the limits of a four years' curriculum, so arranged that the influence of heredity and individual aptitudes shall be kept constantly in view. It assumes that the colleges will fix their own requirements of admission, but requirements that will not discourage worthy students, nor compel a preparation which is contrary to their tastes and talents, but rather such as will encourage and enable them to build on foundations well laid. The report does not deal with fixed programs for all schools, nor for any school, nor with curricula for individual pupils, but rather with courses of study, their matter and method, and the quantity and quality of work to be done, the place for each study and the time to be consumed in its pursuit. In Latin a well-defined course is given for four, five, and six years; in Greek for three years; in French and German, courses are prepared in detail, named elementary, intermediate, and advanced, covering respectively for each, two years, three years, and four years.

The first may be taken in addition to Latin and Greek; the second as a substitute for Greek, and the third independent of either or both ancient languages. English should be given a prominent position in all secondary schools, and pursued, whether as a preparation for college or not, four periods a week for four years. The mechanism of the language should not be neglected, its literature should be a constant study; there should be much practice in writing, and a taste for the best reading should be inculcated by a wise selection of books, graded and classified with the utmost care. To roam at large through a library, to select books by their titles and not by their content is not commended. In every school there should be a reference library supplemental to the texts in the program of studies, and in addition, a small, well selected, thoroughly graded miscellaneous library of the choicest literature, secured in duplicate. Five copies each of two hundred such books are better than a thousand books, one copy each, carelessly selected. It is not the quantity but the quality of books that makes a good library. The report in this respect is in a very large measure in harmony with the most excellent work of the Joint Conference on English, and with their recent recommendations issued after this report had gone to press. Sixty of the books included by them in an open list for home reading will be found in the volume before you. This is a striking and most happy coincidence, as the two bodies were not in communication with each other, nor was the membership in any respect duplicated. The report on English, therefore, should meet with universal recognition and adoption.

The committee recommends, and with all the force of its influence emphasizes the recommendation, that American history be given a place for one entire year in the program, and even in the curriculum, of every secondary school, and preferably in the fourth year of the school. Courses in history are presented for from one to four years, with the understanding that the school will adopt as many of them as their members, equipment and teaching force will permit, and that the colleges will accept and give credit for as many as they may deem wise and just.

Strong and extended courses in mathematics are proposed. There was some difference of opinion in the committee as to the wisdom of requiring so much. There is a widespread conviction in the public mind that a very large and respectable minority of pupils, especially girls, while intellectually well furnished by nature and attainment in other respects, are deficient in the mathematical faculty. There is serious doubt with many whether solid geometry should be forced into every preparatory curriculum. The chairman sympathizes with this view, and hopes the colleges will give earnest heed to this question before they insist upon making anything a constant in preparatory mathematics beyond algebra and plane geometry.

The committee prepared courses or made suggestions concerning the study of the sciences in secondary schools. It recommends for the first year physical geography; for the second year, biology, that is, botany and zoölogy or botany or zoölogy, for the third year physics; and for the fourth year chemistry. It was a matter of the most poignant regret that the committees appointed to coöperate with us by the science department of this association did not furnish us with as harmonious, elaborate and satisfactory reports as those which came from other organizations on other subjects. The report on zoölogy came too late for our careful examination; that on physics is incomplete, by reason of a lack of harmony in the subcommittee as to matter and method. No reports were presented on geology, astronomy or physiology, subjects which are considered worthy of a large place in secondary-school programs.

We suggest, therefore, the appointment of a special committee to survey the whole field of science teaching in the secondary schools, and to make a report as exhaustive, as suggestive and as conclusive as those of the American Philological Association, and the Modern Language Association of America, which reports ought to be in the study of every high-school teacher of language in the nation.

In studying this report in detail, one will at once see that the program of studies here discussed is beyond what most schools except in the large cities can offer, and far beyond what

any pupil can compass in four years. It is expected that schools will arrange their programs in accordance with their opportunities as limited by the public funds at their disposal, by the equipment at their command, by the number of their pupils and the number and quality of their teachers; and that pupils will be allowed to arrange their curriculum as dictated by their tastes and talents and their plans for the future.

It is hoped that the courses of study laid down in this report, with the unanimous endorsement of the committee, will be adopted and used by all schools, as national norms to the extent in which these studies are included in their programs. It is further hoped that all the colleges will accept, toward satisfying the requirements for admission, any unit of work recommended in this report when proof shall have been presented by certificate or examination that the work has been well done—and that they will also give credit for any unit of advanced work, and desist from the injustice of compelling a student to go over ground which he has already carefully surveyed. The committee limited the constants for all schools to a minimum, in order that full play may be given to both the secondary schools and the colleges, to the one in fixing their requirements for admission and to the other in determining the requirements for graduation. We believe there will be no difference of opinion regarding the constants here presented so far as they go. There are many principles enunciated in this report which those who follow me will doubtless discuss. I need not enlarge upon them. If there is one central thought in the report it is that of eclecticism, of wide options in secondary schools and in the requirements for admission to college. The question of intrinsic and relative value of studies is not dwelt upon. The test of the value of a study resides more in the teacher and the pupil than in the study.

Physical conditions are determined largely by diet. While I am not at variance with the principles or the practice of Christian science, I realize that what I eat has a very close connection with the normal or abnormal action of my digestive, absorptive and assimilative machinery. That which I relish is better for me than that for which my physical system by nature or

acquirement has an abhorrence. Some people can eat only cereals, others only vegetables, while many flourish on roast beef and pastry. There are foods for everyone, that suit everyone, if he is wise and discreet enough to select them. It is much the same with the intellectual. The same mental diet is not equally adapted to all. What you should study that you may make the most of yourself, as determined by your endowments, the gifts of the Creator, is not perhaps what I should study for the same end. The percentage of loss in our secondary pupils from year to year is lamentable. This loss is not wholly due to home conditions. The program of study has been much at fault. Pupils have been forced to pursue studies, and given up the pursuit without capture, in sheer discouragement. They have been compelled to bolt down food which has been nauseating, but not nourishing. Intellectual dyspepsia has been the result and they have abandoned school because it did not meet the demands of their nature, it did not feed their appetite, and yet in later years many of these same pupils have come to the very front in the honorable callings of life. There has been a noticeable increase in the percentage of students who remain in college to the end of a curriculum since electives were introduced into college programs. There may be the same desirable results in our secondary schools, when pupils, under interested and safe guidance, are given a large liberty of choice in the studies they may pursue. There is a niche for everyone of average intelligence to fill, but the misfits in life are deplorable in the extreme. The opportunities for success and usefulness, are rich and varied. The teaching profession needs better trained specialists; in the learned professions there is vacant room at the top; in the world of nature there is much to be discovered; in the laboratory of science much to be developed. The institutions of mankind await the touch of master minds to reform them and adapt them to new eras, new modes of living, and new methods of thought. Our own government needs rejuvenation; our municipalities reeking with rottenness need revolutionizing. The whole moral sense of the public needs quickening. All these high ideals must be reached through the instrumentality of education. The young

people of the nation then must be furnished opportunities for such an education as their natural endowments seem to foreshadow, and which will be of most value to them. We shall not have then so many physicians that ought to be farmers, so many lawyers that ought to be blacksmiths, so many preachers that ought to be peddlers, nor so many failures in business because of mistaken vocations.

Woe be to the one who crowds upon a young and innocent mind a study which though meat to the parent or teacher, may be poison to the pupil. Child-study, mental aptitudes, individual trend, the eternal fitness of things should absorb our thought and demand our vigilance in the arrangement of a curriculum of study for every boy or girl who passes through the secondary school and the college. The sky is streaked with the gray of a better dawn, the clouds of pedantry are passing away, individualism in education is the promise of a rational future.

In behalf of the committee appointed by your departments to study the question of College Entrance Requirements, with gratitude for your patience in waiting four years for our conclusions, with acknowledgments to the hundreds who have given us valuable aid, and in the hope that this report will be received and studied in the same earnest and honest spirit in which it has been prepared, I submit it with the unanimous endorsement of the committee, for your consideration.

A. F. NIGHTINGALE,
Superintendent of High Schools, Chicago

DISCUSSION OF THE REPORT

The report of the committee in question as presented at Los Angeles in 1899 is one of the most valuable contributions toward a practical solution of the question as to the entrance requirements of the American college or university in the future.

There is apparently but one answer to this question. The university should demand such a degree of mental training as will enable the student to grasp the opportunities it offers.

The lines of work offered by the university are extremely varied in kind, and fitted to the differences which exist in the minds and purposes of students. The nature of preparatory work is equally varied. That which any given school can offer depends on many circumstances, and its two important qualities are fitness and thoroughness. Fitness is incompatible with a fixed curriculum of whatever sort, and thoroughness cannot exist without fitness. It is, therefore, true that no hard and fast course of studies can furnish satisfactory preparation for the varied courses of a modern university, nor to the varied kind of men who undertake these courses. Each secondary school must consider its own possibilities, the demands upon it made by its actual students, and do the best it can with these conditions. The principle of choice must be recognized, and whether this choice be made by teacher or by student, the course must be made flexible and adaptable.

The secondary school of the future must decide for itself what subjects it will teach. Among these subjects the student must choose those fitted to his powers and purposes. The mistakes of election made by student or teacher are nothing compared with the mistakes made in a prescribed course, the parts of which were chosen before the student was born. In these matters the university should have nothing to say, at least nothing in the way of autocratic prescription. The secondary school should have in view the future demands of life on its own students. A student who is well prepared to enter on life, has not been spoiled by the work of any living university.

But the university has the right to demand thoroughness in such work. Life makes the same demand with vigorous insistence. Light work or work lightly done makes a poor preparation for life or for college. It is not the kind of preparatory studies which fixes the character of a student. It is the thoroughness with which the work is done. There is strength in mastery, and what is not mastered may as well be omitted. The university can build on any kind of a sound foundation, but the foundation must be sound. All kinds of preparatory work, if thorough and under competent teachers, may be safely

accepted by any university. No harm is done if equal credit be given for equal time and effort, whatever the direction in which it has been expended.

The committee recommended that for all work on which the university can build, whether in science, mathematics, literature or language, recognition should be given. Any attempt to prescribe the amount of work in each direction is impracticable and undesirable, if any large number of preparatory schools is considered.

The practical result is that the university reduces its entrance requirements to a certain number of courses or educational units. It tests the character of each of these as offered, ascertaining their completeness and thoroughness. If a sufficient number of these is offered, and the quality is above reproach, it has no further questions to ask. Any defects of symmetry in the preparatory course are easily remedied. As to this, nothing could be less symmetrical than the usual preparatory course demanded by classical colleges.

The committee has given much attention to the definition of national units in preparatory work, such a unit being a year's rational work, of four periods or hours per week, with proper equipment or apparatus and under competent teachers. A preparatory school may offer many units or few, as may accord with its standards, but in terms of this kind its requirements should be expressed. In proportion as any university insists on regulating the character and sequence of preparatory studies, does it lose its power to insist on thoroughness and fitness. Let the university test the latter elements, and the secondary school will take care of the rest. Only gain has come from each extension of freedom in individual initiative.

For eight years a system almost identical with that foreshadowed by the report of Dr. Nightingale's committee has been in operation in Stanford University. It was chosen not because any or all of the faculty of the university preferred it, but because, in view of diverse opinions, and of the great unlikeness in schools sending students to the university, no other syststem was possible or workable.

Certain changes have arisen in the definition of individual units, and with the advancement of standards a greater number of units are demanded, but in other regards these requirements have not been altered in eight years and are not likely to be changed in a century. No one having experience with this system would change to any other, and the report of this committee will go a long way to make general this simple and rational system, thus relieving the universities of a vexatious problem and the secondary schools of a great and needless burden.

DAVID STARR JORDAN,
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The publication of the Report of the Committee on College Entrance Requirements marks an epoch in the development of our secondary education. The high schools have at length become so large and find so many and so varied interests legitimately insisting on recognition, that they are being driven to some sort of declaration of independence, and are beginning to ask if they are not as competent to prescribe as to accept conditions. All readers of current educational literature are becoming familiar with the conception of high-school programs based absolutely on psychic law and social needs. A course of study aiming solely at an examination is considered by an ever increasing number of thoughtful teachers to bear presumptive evidence of unsoundness, and examination successes are visibly declining in professional esteem. The report decidedly favors the movement towards freedom and initiative. That a body of representative educators should agree upon positions so advanced as those which it formulates is a most encouraging sign of progress.

The secondary education, it is now claimed, must evolve its own philosophy and must find its problems, not in requirements, but in the nature of things. The high schools are wholly an outgrowth from the people; their business is to be popular and useful, rather than scholarly and learned. The teachers of these schools will ultimately be all college-bred men and women. This fact will in itself guarantee a sufficiently close relation

between the higher and the middle education. But the teachers of the high schools must come to the consciousness that they are the people's direct servants and representatives, and that their function is service to society. The college must take care of itself. Sure of its ground as a public institution, the high school must develop in the direction in which it is called by manifest destiny: it is for the college to consider whether it finds what it wants in that which the high school has to offer. The college insists on examining; like all wise examiners, it will doubtless find means to ascertain what the schools are doing, and shape its examinations accordingly. The anomaly to be abolished is that by prescribed examinations the college should determine for the school its plan and even its method of study.

It is very pleasing to see that the principle of "election" and "elasticity" in high-school plans of study has become already domesticated in professional thought and speech. *Election* is becoming, or has already become, a watchword; the youth may choose his studies. We no longer hear that the youth must look forth upon the world of culture through five windows. The old groupings of studies, called courses, have ceased to be imposing or interesting, and we are contemplating high-school pupils engaged, like Harvard students, in making up their lists for the coming year.

Election is coming quite rapidly enough. By its recommendation of the adoption of certain "constants," the committee shows itself fully alive to the possible danger that the movement toward election may here and there outrun the ability of governing bodies to give it wise direction. If an adopted "constant" causes chafing, it will easily be modified so as to work smoothly or else will simply be relegated to the list of electives. A popular demand in any community for release from a "constant" will not long be met with elaborate argument when it can instantly be gratified by a vote. Hence the required subjects will always stand in a precarious position. Every movement to secure greater ease and simplicity of administration will result in diminution of their number. The principle of election is in its nature expansionist.

With diversity fully established in both secondary and upper education, the method of transition from one stage to the other also of necessity becomes diverse. The tendency will be to assimilate what we have always known as general courses, on the one hand, and college-preparatory courses, on the other. The preparatory course has hitherto been single and inflexible, and naturally, therefore, dominant. It is now becoming multiform, and the general courses are growing more and more thorough and exacting. Greek has already come to be known as a "softer" subject than physics or mathematics. The English, or modern, side of a good high school affords quite as good a guaranty of intellectual culture as does the traditional classical side. The affectation of a certain social preëminence to which we are accustomed in Latin schools will naturally be more and more ignored as the schools are popularized, and the absolute social equality of studies, for whatever end pursued — which no one ventures openly to gainsay — will become familiar to our thought, and will be expected to shape our school arrangements.

As preparatory courses become diversified, the college will have to invent ways to make the admission examinations elastic. If the college can once bring itself to forego the stimulus it now brings to bear upon secondary study by putting teachers in competition with each other, it will easily find ways to make examinations true tests of mental states. What the college may rightly seek to ascertain by an examination is whether the applicant's mind has been duly trained in his secondary course, and whether he has acquired a reasonable power of expression in his native language: is he prepared to apply himself to collegiate work. What the college now by its prescriptions gets is the result of certain narrowly specified teachings, whose main feature has usually been the practice of a severe economy of effort in excluding all subjects of thought that will not tell in a momentary test. Teachers who think out their work, trying to establish it upon the principles of adolescent psychology, will hardly remain contented with examination successes, and will hardly find the examination stimulus compatible with the true teaching function. Very crude and puerile, very belated and

outgrown, is the custom of virtually giving marks and honors to preparatory teachers to urge them on to make more strenuous exertions.

The injustice wrought by rigid examination systems we have seen illustrated again and again. In the admission examination in English, for example, the sole legitimate purpose of the college is to ascertain if the applicant can write English reasonably well and has a satisfactory acquaintance with English literature. But when the applicant confronts the examination, he finds that no writing of his will be accepted unless on certain prescribed themes, and that no knowledge he may have of literature avails him beyond a certain very small circle of assigned books or poems. Acquaintance with an author or with a period gets no credit except it be acquaintance with some particular literary work. Thus the applicant may be perfectly well prepared by the abundance of his literary knowledge and by his ability to write, but will be rejected in the examination just as if he knew no literature at all and were incapable of composition. It seems incredible that secondary teachers should live contented under such a régime.

The fashion of the day in education is to tabulate and schematize. It is hardly to be expected that such a report as this should come off without its columnar assignments of subjects to the various years and of portions of subjects to the smaller divisions of the course. Such schemes are to be regarded as expressions of the results and issues of theorizing, and not at all as prescriptions intended to control the actual procedures of teachers in the schools. Some minds work in this way and must be allowed so to work. At their best, the schemes are merely advisory and suggestive. The teacher must be granted all discretion, and in proportion as he is interested in his work will find his own motives and take his measures in accordance with the needs and the opportunities of the day. The teacher is to philosophize, and not be altogether philosophized for by a superintendent.

The supervisor of English composition, for example, if he distributes the elements of English writing in his scheme to the

successive years and half years of his course, can hardly have in mind any further purpose than to present a bird's-eye view of all the points that must be attended to, with the object of making sure that nothing is omitted. For it is certainly not to be considered a moment that there is a time for capitalizing, a time for punctuating, a time for paragraphing, a time for describing, a time for narrating. All the elements of composition have to be attended to all the time. Neither the elements of composition nor the occasions of composition can be schematized. English must be taught whole. It is always wanted in all its fundamental elements, and whether narration, description, or criticism shall be the order of the day depends on the interest at the moment prevailing, the external occasions that arise, and the general solicitations of fitness perceptible to no one else so clearly as to the actual teacher.

SAMUEL THURBER

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The strength of the committee's report is in the fact that it has devoted its main energy to a plea for uniformity and elasticity in college entrance requirements, or rather to pointing out a practicable means of securing these ends. These ideas of uniformity and elasticity are clearly and strongly set forth, and they rest, I believe, on a solid basis. That there are practical difficulties in the way of their general acceptance must be admitted, but these difficulties are by no means insuperable, and, indeed, the report of the committee outlines a practicable working plan. While the strength of the report lies mainly in its insistence on the ideas of uniformity and elasticity, the practical service that it renders to education is this formulation of a feasible scheme.

In urging uniformity the committee does not suggest that all colleges should require the same subjects, or even the same amounts in any subject, but it does hold that when a college requires a particular subject for entrance, its requirement in that subject shall be identical, as far as it goes, with those of other colleges in the same subject. For instance, a college may or may not require Greek, but if it does it should make its requirement identical with the Greek requirement of other colleges.

Without violating the principle of uniformity, it may accept less than the full amount, or may accept an alternative for part of the Greek, but in such a case the point of division should not be arbitrarily decided on by the individual college, but should conform to a common standard. The report implies, although, it does not distinctly state, that any such division of a subject should be on the basis of a full year's work. This would do away once for all with the annoying addition of a single book of a Latin author, or of a minor topic in algebra, and the exasperating demand for an extra term's work in some subject.

The committee proposes to secure this uniformity by establishing standards or units in all the important subjects. These units are based on what the schools can do, not on what the colleges would like to have. This is, of course, the only basis on which to proceed, but it must be admitted that in spite of its reasonableness it is a basis which some colleges seem reluctant to accept. These units, or courses of study, have been prepared by committees of specialists, evidently with great care. In spite of certain inevitable exceptions and unevennesses the work has been well done, and the reports of the subcommittees mark, in my judgment a distinct advance on anything of the kind that has yet been accomplished.

The general statement in regard to English is admirable, but the outlined course of study, while valuable and suggestive, is hardly one that will be generally accepted. The college requirement in English, however, is in a different condition from that in any other subject. Practical uniformity exists in English entrance requirements, but English teaching in our schools, although there has been immense improvement in the last few years, is still in a most chaotic state. Order is gradually coming out of chaos, however, and as fast as agreement is reached among English teachers it will be possible to modify the requirement to meet their needs. With one recommendation of the committee I cannot fully agree, namely "that there should be no difference between the regular courses and the college preparatory courses in English." I am not prepared to dispute this statement just as it stands, but experience and observation have convinced me

that as a rule pupils taking a full classical course do not need as much formal work in English as those who do not study either Latin or Greek. Latin and Greek are not substitutes for English, but there must be something radically wrong with the teaching of these subjects if four years' work in one and two or three in the other, supplemented probably by at least a year with a modern language, do not give a linguistic and literary training that will reduce the amount of work necessary in English.

The reports on Greek and Latin are excellent, but it is a pity that these committees did not follow the example of the committees on German, French and history and prepare specimen examination papers, or make specific recommendations as to the method of examination. Admission by certificate may soon be universal, but as long as Harvard, Yale, Princeton, Columbia and Pennsylvania continue to examine all candidates the question of examinations cannot be ignored. The Columbia Conference of 1896 made a very satisfactory recommendation as to a Greek requirement, and one that harmonizes entirely with the report of the present committee. The Columbia Latin Conference, however, while it proposed a course of study very like that of the present report, framed a requirement that is anything but satisfactory, and it would have been a great service if this committee had formulated a definite statement as to the method of testing the results attained.

The work in German and French has been most thoroughly done. With such a variety of theories in regard to the teaching of modern languages as exists at present, exception will, of course, be taken to many statements in the report. It is, however, eminently sane and sensible, and wonderfully suggestive. It strikes me as the best syllabus of modern language teaching that has yet appeared.

The report of the "Committee of Seven" on history is too comprehensive and involves too many points to be discussed in a paragraph. It may be said briefly that the plan proposed of counting one year's work in history as a unit will meet with general approval. The units named, however, and the course of study outlined will cause considerable discussion. The course

of study proposed differs from that suggested by the Committee of Ten in the substitution of mediaeval and modern European history for French history and the omission of a year of "intensive" study. The first change is theoretically right, but there are many teachers who hold that it is impracticable.

The report in regard to mathematics is valuable, and in the main, sound, but it is a serious question to my mind whether elementary algebra and plane geometry can be satisfactorily completed in the second year and solid geometry and trigonometry in the third year of the high school. There is no difficulty in covering the ground, especially if algebra and geometry are begun well before the high-school period, but I am decidedly in doubt as to whether the subjects do suffer by being completed too early. Experience is forcing me to the conclusion that algebra and geometry are very superficially taught in many of our schools, and I incline to the opinion that we shall secure better results by carrying these subjects through the third year of the high school, and leaving solid geometry and trigonometry until the last year, when our students have the maturity to handle them more adequately.

The reports on the various sciences are satisfactory, but it is unfortunate that the work is not complete, and especially that there is no adquate report on physics, the most common college requirement in science.

Exceptions can undoubtedly by taken to all of the "units" proposed by the committee, but they are, in the main, reasonable and satisfactory. It would be an enormous boon to education if they could at once be adopted as they stand. With all of the colleges and schools applying them their defects would speedily be discovered and they could be perfected by united action more easily and satisfactorily than by individual tinkering. Since this is not feasible it behooves us to give them the fullest discussion and the widest publicity possible and to urge by every means in our power their full or approximate adoption. This is our opportunity to take a long step in the direction of uniformity of college entrance requirements.

In another line the committee recommends that certain "con-

stants" be required for college entrance—"four units in foreign languages, two units in mathematics, one in history and one in science"—and that for the rest practically free option be allowed to the student. This is the direction in which our colleges, or some of them, are moving, and there is little need of special missionary work to accelerate the movement. Colleges want students, and when they realize that desirable candidates are turned away by too rigid barriers, they will speedily remove, or at least lower, the bars. The practical difficulty in the way is that where colleges do not accept the elective system in their first years, it is difficult to allow very wide options for entrance and yet have students prepared to follow out the regular college courses. This, of course, can be met by increasing the number of courses, but the multiplication of courses is a serious matter for a small college. Still the difficulty can be met, and will be met without any special urging on our part.

The report as a whole is a valuable and weighty document, excellent in its general conclusions and in its specific recommendations. Much yet remains for the committee to do, but it has wisely limited its energies at this time. It is now our part to secure, as far as possible, the adoption of its recommendations.

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The Report of the Committee on College Entrance Requirements recently presented to the National Educational Association is a most valuable document. It will not be received with the same enthusiasm that marked the appearance of the report of the Committee of Ten, simply because we have now grown accustomed to investigations of this character. Besides some of the reports prepared by committees of various associations have already been published with more or less completeness. But none the less the report is a memorable publication, summing up the labors of years and giving the results of the most careful study of different questions. The problems of school and college programs are not settled yet, but such investigations as have been made by the National Educational Association go far toward effecting a satisfactory solution.

The first part of the pamphlet before us contains the report of the general committee, summing up, recasting, and amending the special reports of part two. This task is done for the most part with great conciseness and brevity. All the comments on foreign languages comprise only five lines. More space is given to mathematics and sciences. The suggestions made on these subjects are striking. Arithmetic fares ill at the hands of the committee. It is to be completed in the sixth grade, and commercial arithmetic is banished entirely from the prescribed course in mathematics. It would seem that the whole amount of mathematical work thus outlined might be easily completed by the end of the eleventh grade. In sciences laboratory work is insisted on and no place is allowed for short scrappy courses. Such work as is here described in botany, physics, or chemistry may well be allowed by any institution to count for admission. There is no doubt that the popularity of science study in high schools is rapidly increasing. Colleges can no longer keep to themselves this whole domain. They should frankly recognize the value and propriety of such study in schools and provide for its acceptance at their own door. The schools on the other hand must guard against a superficial smattering given by untrained and incompetent teachers.

In the matter of English the committee is quite independent. No special report from any other body is presented on this topic, and the Committee of Fourteen gives as much space to this one subject as to all others combined. The course of study in English as outlined according to the plan of Mr. Webster is suggestive, but it will be found hard to carry out in practice. Rhetoric, formal grammar, analysis, historical grammar, etc., do not naturally fall into a side department of literary study. The list of books for reading and study is large and the committee is opposed to any hard and fast rule as regards books required for admission to college. This is directly contrary to the action of the joint conference and the present practice of nearly all colleges and universities. It remains to be seen what will be the result of this issue now openly joined. Let us hope it will not be to plunge us back into the chaotic state that preceded the present system of uniformity.

Perhaps the most valuable suggestion in the report is the insistence on national units or norms as the basis of all school curricula or programs of studies. If this suggestion finds acceptance, it will aid greatly in securing uniform admission requirements. In the classics, in English, and in mathematics there exists already a tolerable degree of uniformity in school courses, but in history, modern languages and the sciences the diversity is bewildering and renders impossible all adjustment between school and college. If we can now agree that no course in history or science will be accepted for college admission that does not involve a year's study, that elementary French or German means two years' work, that a year's work in any subject means four periods per week of not less than forty-five minutes each, then we are already a long way on the road to a harmonious educational system.

Taking this report as a whole it is plain to see that the burden is placed on colleges to adjust requirements for admission in a way to suit the expanding work of our large city high schools. The work of these schools is being constantly enlarged and enriched. Subjects formerly belonging to the high school are being pushed down into lower grades, and room is made for new studies. As the program of studies widens, various curricula are established or wide options are allowed the individual pupil. To meet such a state of affairs, requirements for admission to college must be arranged according to the plan of the University of Chicago, Leland Stanford, and the new plan at Harvard. The advantage of such a plan is its great elasticity and perfect adjustment to every phase of secondary school. The disadvantages of such a system are also conspicuous. The college must divide subjects into elementary and advanced, and must provide classes in many subjects allowed for admission. This means that the last year of the high school is repeated by the college. Of the fifty-three points assigned to various subjects under the new rules for admission to Harvard, more than one half represent work repeated at the University. This is perhaps no great difficulty at a large university where there are enough students to necessitate subdivision into many sections and groups, but it

would be a serious matter for small institutions. In cases where the freshman class in Latin, Greek, and mathematics is taught in but one or two sections, it would be a great burden on resources already taxed to provide courses duplicating high-school instruction in these subjects. The hardship is increased when to this must be added a new set of courses in chemistry, physics, botany, and zoölogy adapted to the wants of pupils who have pursued these subjects one year in the high school. These are the practical difficulties that stand in the way of the general adoption of such a plan. Another difficulty presents itself from another direction. If elementary courses are generally to be introduced in Latin, Greek, and mathematics, will not stress of competition lead many institutions to admit pupils freely to these classes without insisting on compensating performances in other branches? It is easily possible for a pupil to be so far advanced by the end of the eleventh grade as to be prepared for Harvard University; not indeed for the entrance examinations, but for courses offered. Such a pupil, if allowed to enter, could find in the university all the classes needed for his further development. A smaller institution, if pressed by competition, would be seriously tempted to admit such a pupil, so that we are landed back into tolerance of subclasses, preparatory departments, etc., a practice still adhered to by many institutions in the South and West where schools are scarce. But in spite of these objections it is clear that the trend of development is in this direction. The great universities set the fashion and smaller institutions try to follow.

Another change in college work will be promoted by this report, and that is the abandonment of all fixed curricula and the substitution of unrestricted election. The report practically contends for this, even in secondary work; in college the principle should be allowed with far greater right. It is something new to see the colleges driven to this position by the schools. Perhaps this is but another application of the divine provision that "a little child shall lead them."

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